

## ACTIVITY 14 GRADES 6-12

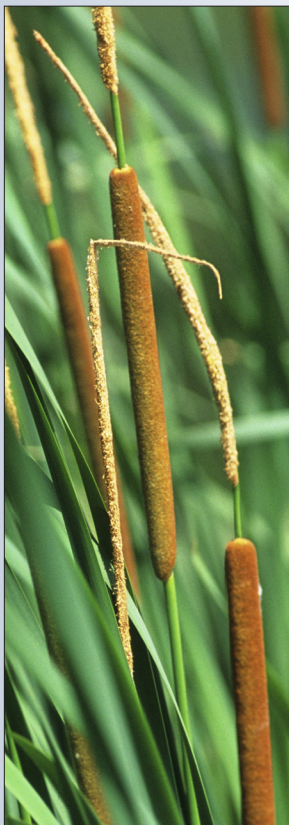
### Objective

Students will classify Wisconsin wetlands based on their characteristics.

### Time Suggestion

45 minutes.

**Wisconsin Model  
Environmental  
Education Standards**  
Environmental Education:  
B.8.6.



Invasive Cattails.

WISCONSIN DNR

## WISCONSIN'S WETLAND HABITATS\*

### DESCRIPTION

This activity uses a flow chart and dichotomous key to introduce and identify the common types of Wisconsin wetlands.

### PROBLEM

What are the differences among Wisconsin's wetlands?

### MATERIALS

- ☐ Copies of "Wisconsin Wetland Habitats" worksheet (page 65), "Wisconsin Wetlands Dichotomous Key" (page 67), and "Wisconsin Wetlands Identification Chart" (page 68).
- ☐ Copies of "Habitat Cards" (pages 69-71) on stiff paperboard.
- ☐ Paper and pencils.

### PROCEDURES

1. Discuss with the students the activity's background information.
2. With the students, define the word "habitat."
3. Explain to the students that they will be using a flow chart (identification chart) to identify twelve wetland types by their characteristics and the habitats they provide. Identify the first card together as a class.
4. Have the students, working individually or in pairs, identify the remaining habitats and write their answers on the sheet provided.

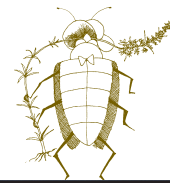
### BACKGROUND INFORMATION

A habitat is the place where an animal finds food, water, shelter, and space in a particular arrangement. Wetlands offer a wide variety of habitat types for many species of wildlife.

An area does not always have to be wet to be considered a wetland. Many wetlands are covered by water only during the rainy spring season. Others are regularly or infrequently flooded, while some may be covered by water most or all of the time. Sometimes on a visit to a wetland, it is difficult to tell just how wet it is. In these cases, the types of plants found there are often the best indicators. In fact, many wetlands are named by the plant species found most commonly in them.

Wetlands can receive their water from springs/groundwater, streams, rivers, ponds or lakes, and rainwater or snowmelt. Differences in wetness, as well as slope, elevation, and climate cause differing plant communities to develop. Wetlands are classified, in part, by the water, frequency and degree of inundation, and types of vegetation most prevalent there.





## ACTIVITY 14 WISCONSIN'S WETLAND HABITATS (CONTINUED)

### STUDENT ASSESSMENT

- ♦ Students should be able to name different types of wetlands and/or identify wetlands using the identification materials provided.
- ♦ Students should be able to identify qualities that might distinguish one type of wetland from another.

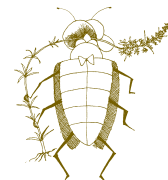
### EXTENSIONS

Students can draw a web showing interactions between an imaginary plant and its specific ecosystem. They can predict the population growth of their imaginary plant relative to other organisms in the web.

Wisconsin has a variety of wetland types.



\* Adapted from WOW: *Wetland Habitats*. Information on Wisconsin wetlands was taken from the *Wetland Restoration Handbook for Wisconsin Landowners*.



## ACTIVITY 14 STUDENT HANDOUT

### Wisconsin Wetland Habitats

Name(s) \_\_\_\_\_

The fifteen types of wetlands in Wisconsin are:

alder thicket	coniferous swamp	open bog	shrub carr
calcareous fen	deep marsh	sedge meadow	wet meadow
cedar swamp	floodplain forest	shallow marsh	wet prairie
coniferous bog	hardwood swamp	open water wetland	

Using the Identification Chart and/or Dichotomous Key provided, identify the Habitat Cards. Write your answers in the lines below.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_

#### Terms Used in the Dichotomous Key and Flow Chart:

**acidic**—having a pH less than 7.0

**alkaline**—having a pH greater than 7.0

**coniferous**—trees such as pines, spruces, firs, and tamaracks

**emergent vegetation**—plants that have their roots in the water but also grow above the surface of the water; examples are cattails and wild rice

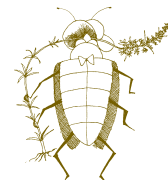
**floating vegetation**—plants that may or may not have their roots in the soil but float on the water's surface; examples are lilies and duckweed

**forb**—a flowering plant

**hardwood**—trees such as oak, cherry, hickory, etc.

**submergent vegetation**—plants that have their roots in the water but do not extend above the surface of the water

**woody vegetation**—generally, shrubs and trees; plants with a hard, woody stem



## ACTIVITY 14 STUDENT HANDOUT

### Wisconsin Wetland Habitats Answer Key

Name(s) \_\_\_\_\_

The fifteen types of wetlands in Wisconsin are:

alder thicket	coniferous swamp	open bog	shrub carr
calcareous fen	deep marsh	sedge meadow	wet meadow
cedar swamp	floodplain forest	shallow marsh	wet prairie
coniferous bog	hardwood swamp	open water wetland	

Using the Identification Chart and/or Dichotomous Key provided, identify the Habitat Cards. Write your answers in the lines below.

1. deep marsh

2. alder thicket

3. wet meadow

4. sedge meadow

5. coniferous bog

6. shallow marsh

7. hardwood swamp

8. wet prairie

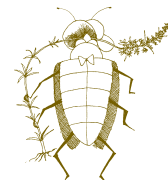
9. coniferous swamp

10. calcareous fen

11. shrub carr

12. flood plain forest



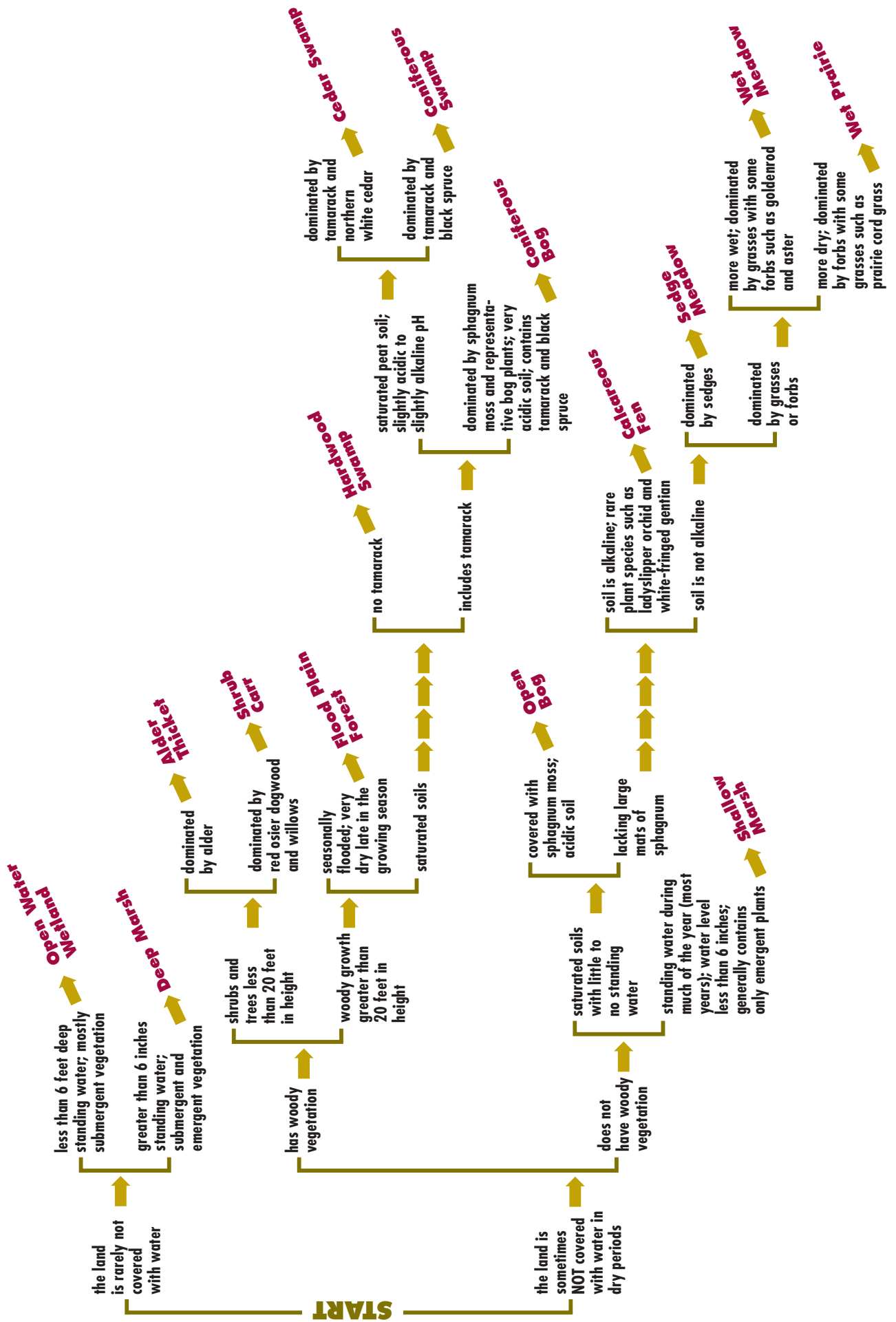


## ACTIVITY 14 STUDENT HANDOUT

### Wisconsin Wetlands Dichotomous Key

- 1a. Land is rarely not covered with water...2
- 1b. Land is sometimes NOT covered with water during dry periods...3
- 2a. Less than 6 feet deep standing water; mostly submergent vegetation...**open water wetland**
- 2b. Greater than 6 inches of standing water; submergent & emergent vegetation...**deep marsh**
- 3a. Has woody vegetation...4
- 3b. Does not have woody vegetation...10
- 4a. Shrubs and woody vegetation less than 20 feet in height...5
- 4b. Shrubs and woody vegetation greater than 20 feet in height...6
- 5a. Dominated by alder...**alder thicket**
- 5b. Dominated by red osier dogwood and willows...**shrub carr**
- 6a. Saturated soils; usually not standing water...7
- 6b. Seasonally flooded; very dry late in the growing season...**flood plain forest**
- 7a. Includes tamarack...8
- 7b. No tamarack...**hardwood swamp**
- 8a. Saturated peat soil with slightly acidic to slightly alkaline pH...9
- 8b. Dominated by sphagnum moss and representative bog plants; very acidic soil; contains tamarack and black spruce...**coniferous bog**
- 9a. Dominated by tamarack and northern white cedar...**cedar swamp**
- 9b. Dominated by tamarack and black spruce...**coniferous swamp**
- 10a. Saturated soils with little or no standing water...11
- 10b. Standing water during much of the year (most years); water level less than 6 inches; generally has only emergent plants...**shallow marsh**
- 11a. Lacking large mats of sphagnum...12
- 11b. Covered with sphagnum moss; acidic soil...**open bog**
- 12a. Soil is not alkaline...13
- 12b. Soil is alkaline; rare plant species such as lady's slipper orchid and white fringed gentian...**calcareous fen**
- 13a. Dominated by grasses and forbs...14
- 13b. Dominated by sedges...**sedge meadow**
- 14a. More wet; dominated by grasses with some forbs such as goldenrod or aster...**wet meadow**
- 14b. More dry; dominated by forbs with some grasses such as prairie cord grass...**wet prairie**

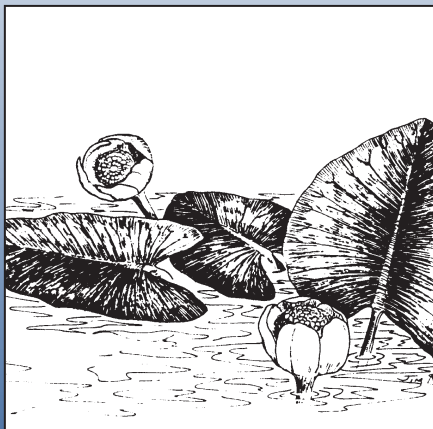
# Wisconsin Wetlands Identification Chart





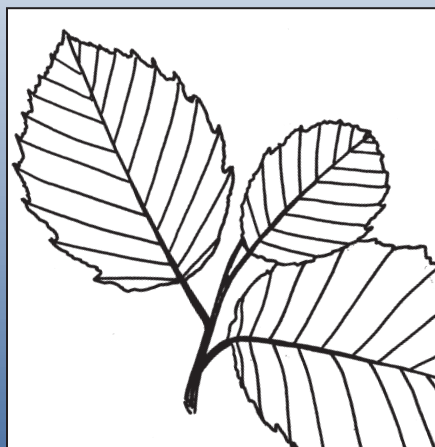
### Wisconsin Wetland Habitat Card

- 1** This wetland is always covered with more than six inches of standing water. You will find cat-tails and water lilies growing here. You will also see plants growing from the wetland bot-tom that don't emerge from the water. The water level varies from year to year.



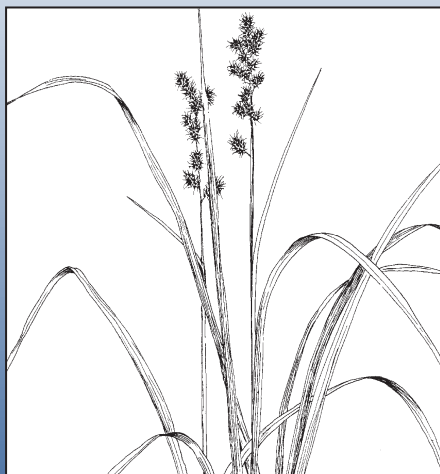
### Wisconsin Wetland Habitat Card

- 2** Along the spongy, moist stream bank grows multi-stemmed, speckled alder trees. The dense, overhanging branches of these six to twelve foot tall trees help keep the stream cool. This habitat usually has standing water only in the early spring.



### Wisconsin Wetland Habitat Card

- 3** This field feels soggy as you walk over it but has standing water during part of the year. The soil has a pH of about 6.5. The vege-tation consists of some sedges but mostly of grasses. There are also some flowering plants.



### Wisconsin Wetland Habitat Card

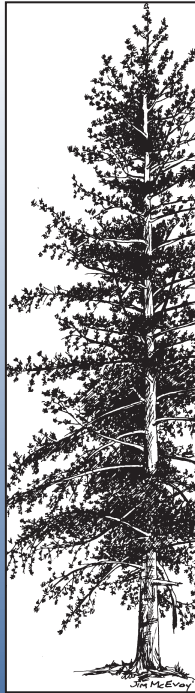
- 4** Depressions in a field may fill with rain and ground water and stay wet for several days or weeks. Land-owners often mow or plow around these spots to avoid getting tractor wheels stuck in the soft ground. On spring evenings, these puddles seem alive with the high-pitched calls of spring peepers (tiny frogs) looking for mates among the rushes and sedges that grow here. In the heat of the summer, these places usually dry up.





### Wisconsin Wetland Habitat Card

**5** In this low-lying area, the land is usually spongy and moist but generally does not have standing water. The tamaracks and black spruce that grow here can reach forty to sixty feet in height or more. *Sphagnum* moss and other plants are common; the soil has a pH of 4.5.



### Wisconsin Wetland Habitat Card

**6** Tall grasses and other kinds of plants grow up out of the shallow water. The ground is usually covered with water but is sometimes dry. The plants provide food and places to hide for many kinds of animals including fish, invertebrates, muskrats, and lots of birds. This habitat is often at the shoreline of a pond or lake.



### Wisconsin Wetland Habitat Card

**7** Where tall hardwood trees grow in low-lying areas, the ground may hold water for part of the year. In the spring, many beautiful wildflowers grow here, and frogs and salamanders find wet places to lay their eggs. The soil stays moist all year.



### Wisconsin Wetland Habitat Card

**8** In this low, moist field you are surrounded by bright purple blazing star, big elephant-eared leaves of prairie dock, small wild onions, and many other colorful wildflowers. Native grass species are also common.







### Wisconsin Wetland Habitat Card

- 9** Old lakebeds and other low areas that fill with rainwater sometimes accumulate layers of partially decayed plants called peat. At first glance these places might look dry, but their moss-covered floors actually hold a good deal of fresh water just below the surface. The ground here has a pH of 6.0 and feels very spongy. Some shrubs, tamarack and spruce trees also grow above the sphagnum moss.



### Wisconsin Wetland Habitat Card

- 10** This moist, marshy habitat has no trees. You test the soil and find the pH to be around 9.0. Some beautiful, rare plants grow well in this harsh alkaline soil where other plants can not grow. White calcium deposits can be seen on the soil surface.



### Wisconsin Wetland Habitat Card

- 11** The ground is not always covered with water in this habitat where sedges and grasses form hummocks in the shallow water. Small streams wind through the small, shrubby red osier dogwoods and willows. Many waterfowl, amphibians, and invertebrates live here.



### Wisconsin Wetland Habitat Card

- 12** During the spring, these tall trees are flooded with water. Some of the areas around here keep ephemeral ponds well into July. In late summer and fall, the ground is often very dry.

